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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)	
		944-003.182	
<p>I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]</p> <p>on <u>February 26, 2007</u></p> <p>Signature <u>Kathleen Sipos</u></p> <p>Typed or printed name <u>Kathleen Sipos</u></p>		<p>Application Number</p> <p>10/692,290</p>	<p>Filed</p> <p>Oct. 23, 2003</p>
		<p>First Named Inventor</p> <p>Rãmõ et al.</p>	
		<p>Art Unit</p> <p>2626</p>	<p>Examiner</p> <p>Myriam PIERRE</p>
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p>			
<p>This request is being filed with a notice of appeal.</p>			
<p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p>			
<p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input type="checkbox"/> attorney or agent of record. Registration number _____</p> <p><input checked="" type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 <u>58,051</u></p>		<p><u>Keith R. Obert</u> Signature</p> <p><u>Keith R. Obert</u> Typed or printed name</p> <p><u>203-261-1234</u> Telephone number</p> <p><u>February 26, 2007</u> Date</p>	
<p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p>			
<p><input type="checkbox"/> *Total of _____ forms are submitted.</p>			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Attorney Docket No. 944-003.182
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Application of: **Rämö et al.** : Confirmation No.: **7122**
Serial No.: **10/692,290** : Examiner: **Myriam PIERRE**
Filed: **October 23, 2003** : Art Unit: **2626**
For: **METHOD AND SYSTEM FOR SPEECH CODING**

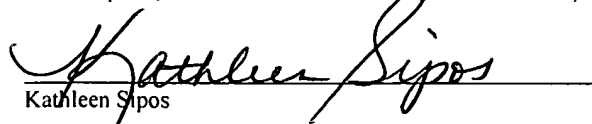
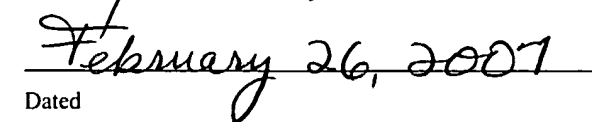
Mail Stop AF
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

In response to the final Office Action of November 24, 2006, please review and reconsider the rejections in view of the following remarks.

I hereby certify that this correspondence is being deposited on the date shown below, with the United States Postal Service with sufficient postage as first-class mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


Kathleen Sipos

Dated

REMARKS

Claims 1 and 3-48 were examined by the Office, and claims 1, 3-38 and 40-48 are rejected, claim 39 has not been properly rejected in this office action. The Office has committed clear error by failing to provide any grounds for rejecting claim 39, and by failing to show that each and every element recited in the claims of the present application are disclosed or suggested by the cited references. See MPEP § 2131. For at least these reasons, applicant respectfully requests reconsideration and withdrawal of the rejections to the claims.

This Pre-Appeal Brief Request for Review is submitted along with a Notice of Appeal.

Claim Rejections Under § 102

In section 3, on page 5 of the Office Action, claims 1, 3-14, 19-38 and 40-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Gersho et al. (U.S. Patent No. 6,311,154). Applicant respectfully submits that claim 1 is not disclosed or suggested by Gersho, because Gersho at least fails to disclose or suggest segmenting an audio signal into a plurality of segments based on the audio characteristics of the audio signal, and a parametric-type encoding method, as recited in claim 1.

The Office has committed clear error in rejecting claim 1 based on Gersho, because Gersho does not disclose or suggest segmenting an audio signal into a plurality of segments based on the audio characteristics of the audio signal. In contrast to claim 1, Gersho discloses that the speech waveform is partitioned into a sequence of successive frames, each frame has a fixed length, and each frame is then partitioned into a number of equal length subframes. See Gersho column 1, lines 55-58; see also column 7, lines 23-26 (each basic frame is partitioned into M equal length subframes). Gersho cannot disclose segmenting based on the audio characteristics as recited in claim 1, because the speech waveform is partitioned into fixed length frames regardless of the audio characteristics. The method for coding a speech signal disclosed by Gersho includes first partitioning samples of a speech signal into frames, and then classifying the speech signal in each of the frames into one of a plurality of classes. See Gersho column 4, lines 25-27. The method discussed in Gersho cannot classify speech samples before partitioning, because the frames that are classified into a class, i.e. the frames must first exist before they can be classified. In fact the Office acknowledges on page 2 of the Office Action, that when the energy peak is determined, the speech signal is already partitioned into frames. Therefore, the

characteristics of the speech signal are not determined until after the speech signal has been partitioned into frames. In contrast to claim 1, Gersho determines where to set the boundary of each frame when partitioning the samples without any regard for the audio characteristics of the speech signal in the frames. Since frames are not classified until after partitioning, and it is impossible to partition the speech signal based on classes before classifying the speech signal, Gersho cannot disclose or suggest segmenting the audio signal into segments based on the audio characteristics of the audio signal, as recited in claim 1. In contrast, claim 1 recites that audio signals are segmented based on the audio characteristics in the audio signals. In claims 1 the segmenting depends on the audio characteristics of the audio signal. Because the audio characteristics of the audio signal may vary from sample to sample, the boundary of the segments is not pre-determined. As a result, a segment can be long or short; it can be 10 frames or 28 frames (see e.g. Figure 3). In Gersho, the length of each partitioned "segment" is the same. See Gersho column 7, lines 23-26.

Furthermore, contrary to the assertions of the Office, partitioning the speech into frames and sub-frames, and enhancing performance by coding the important segments of the excitation more accurately is not the equivalent of segmenting based on audio characteristics, as recited in claim 1. Gersho only discloses that the frames of the speech signal is encoded based on classes, which are based on the nature and amount of information contained in the frames. See Gersho column 3, lines 57-61. In order to enhance the coding efficiency, Gersho discusses coding the excitation signal in windows depending on the classification of the speech frames. Gersho also discloses dividing a fixed frame into a number of subframes for the purpose of locating the active periods (i.e., windows) of the excitation signal in the subframes. However, Gersho does not disclose or suggest segmenting each fixed frame into a plurality of subframes based on the audio characteristics of the audio signal in the fixed frame. Instead, Gersho only discloses coding the excitation in the subframes depending on the audio characteristics of the fixed frame, and then classifying the speech signal in each of the fixed frames into different classes using two classifiers. See Gersho column 4, lines 51-55. Classification is only carried out by a classifier after the speech is partitioned into frames and subframes. After classification, frames belonging to a category are coded by a coding method that represents the excitation in those categories.

Therefore, Gersho does not disclose or suggest segmenting the audio signal into a plurality of segments based on the audio characteristics of the audio signal. For at least this

reason, Gersho fails to disclose or suggest all of the limitations recited in claim 1, and the Office has committed clear error in rejecting claim 1.

Furthermore, Gersho also fails to disclose or suggest parametric audio coding as recited in claim 1, because Gersho is concerned with a CELP-type encoding method. In the parametric-type encoding method recited in claim 1, a parametric speech production model is used to obtain a set of parameters from the audio signal so as to produce a further audio signal in the decoder based on the parameters. The parametric-type encoding and decoding method, for example as discussed in the specification of the present application, does not rely on the waveform of the speech signal segments. In fact, due to the loss of the synchrony between the coder input and output signal, waveform matching is not carried out.

A CELP coder is an example of an Analysis-by-Synthesis (AbS) coder. See Gersho column 1, line 54—column 2, line 1. As known in the art, a CELP coder performs waveform matching on the coder output using code excitation candidates and selecting the one minimizing given error criteria. As disclosed in Gersho, the CELP coder relies on the residual and excitation models. Gersho's coder is not a parametric coder as disclosed in the present invention.

Therefore, for the reasons discussed above, independent claims 1, 19, 22, 26, 27, 31 and 32 are not disclosed or suggested by Gersho.

Claims 3-14, 20, 21, 23-25, 28-30 and 33-48, they are dependent from claims 1, 19, 22, 26, 27 and 31, recite features not recited in claims 1, 19, 22, 26, 27 and 31, and therefore are patentable at least in view of their dependencies.

Claim Rejections Under § 103

In section 4, on page 15 of the final Office Action, claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gersho, in view of Gersho (IEEE-96).

It is respectfully submitted that claims 15-18 are dependent from claims 1, recite features not recited in claim 1, and therefore are patentable over the cited references at least in view of their dependencies.

Claim 39

Applicant respectfully submits that the Office has committed clear error by completely failing to provide any grounds for rejecting claim 39, or addressing claim 39 in any manner.

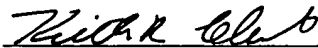
Claim 39 is not addressing in either the § 102 or § 103 claim rejections. Therefore, for at least this additional reason, applicant respectfully requests withdrawal of the final Office Action.

Conclusion

For at least the reasons discussed above, applicant respectfully submits that the Office has committed clear error in rejecting the claims of the present application, as such the present application is believed to be in condition for allowance, and such action is earnestly solicited. The undersigned hereby authorizes the Commissioner to charge Deposit Account No. 23-0442 for any fee deficiency required to submit this response.

Respectfully submitted,

Date: 26 February 2007


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